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ABSTRACT

The combined concepts of holism and general systems theory have led to the belief among health care professionals that people cannot be fully understood unless the mind and body are seen as having an integral relationship. The relationship between nutrition and behavior is one area in which the holistic approach is relevant for the field of counseling. The literature on the effects of nutrition on human functioning can be broken down into several categories. First is the effect of allergic responses on child and adult behavior. Second, vitamin and mineral deficiencies have been found to play a role in human functioning. The vast literature on this subject, now called Orthomolecular Psychiatry, clearly indicates that each individual's system has a delicate balance of nutrients which, when upset, may cause serious psychological responses such as schizophrenia, depression or psychosis. A third relationship receiving attention is that between mental retardation and nutrient imbalances. The last category concerns the effect of blood sugar abnormalities on psychological balance. Although the literature is filled with articles on holistic approaches to health and their implications for understanding human behavior, few counselor education programs are addressing these issues. Counselors have been taught that most problems they will encounter will be cognitively based. It is crucial that counselors broaden their approaches to look at the many dimensions of human functioning. (WAS)

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Nutrition and Behavior:
The Psychonutrient Connection

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Background

Although the concept of holism has been used throughout history, the coining of the term has been attributed to Jan Christian Smuts in his book Holism and Evolution, written in 1926. Smuts, along with others such as Alfred Adler, defined holism in the following context, "The whole is more than the sum of the parts" (Sobel, 1979).

In the 1930's, general systems theorists, such as Ludwig Von Bertalanffy, further expanded the definition of holism to include the view of organisms evolving on many levels in a dynamic process of interaction with their environment (Hampden-Turner, 1981).

Another systems theorist, Gregory Bateson, helped bring a more holistic systems viewpoint from the biological sciences to the behavioral sciences. His influence can be seen most dramatically in the area of group and family counseling (Hoffman, 1981).

Recently, in health care professions, the definition of holistic has been expanded to include the belief that people cannot be fully understood unless they are seen as whole people in which the mind and body have an integral relationship that cannot be separated. This definition has come about as a reaction against the DesCarte dualistic view of human beings which espoused that the mind and body were separate functioning entities. The DesCarte dualistic concept has had a strong influence on how human behavior has been viewed in the field of psychology. In the last ten years many health care practitioners have departed from this conceptual framework to include a more holistic approach and this has opened up many new areas of study. Inherent in this new definition of holism are two implied

beliefs, that individuals play an important part in the process of their own physiological and psychological healing, and that one adopt a new view of people as moving towards optimal wellness rather than viewing them within a pathological or dysfunctional framework (Hastings, Fadiman, & Gordon, 1981).

The definition of holistic has broadened to the point where it is sometimes hard to clearly conceptualize how it is being used. Many different approaches from various disciplines can fall under this umbrella term. In reviewing the literature pertaining to holistic approaches the following five areas seem to have had the most impact on the field of counseling:

1. Nutrition and behavior: the psychonutrient connection
2. Stress management approaches
3. Spiritual awareness as a part of human needs
4. Exercise as a part of optimum health
5. Environmental effects such as toxic exposure, noise and light

In the workshop today the first area will be explored. Within the scope of this presentation this can only be accomplished by briefly outlining a sampling of the vast body of literature and the implications for the counseling practitioner.

Nutrition and behavior: the psychonutrient connection. Over the last ten years there has been a tremendous flood of literature on the effects of nutrition on human functioning (Pauling, 1968; Lesser, 1980; Pfeiffer, 1975). This literature can be broken down into several categories that are important to the field of counseling. First, there has been a great deal of attention given to the effect of allergic responses on child and adult behavior. Rapp (1981) has demonstrated, in a single-blind and double-blind studies, that certain foods which children are allergic to will cause reactions that range from mild fatigue to severe hyperactivity and learning disabilities. Dr. William Crook collaborates these findings in a study he conducted with 166

questionnaires, 70 percent reported that their child's hyperactivity was definitely related to specific foods in the diet. The foods causing hyperactivity in most children in his study were sugar, food dyes and additives, milk, corn, chocolate, eggs, and wheat. Ben Feingold has also contributed greatly to the issue of whether food additives play a major role in hyperactive behaviors in children (Crook, 1980; Feingold, 1975).

In his book Brain Allergies, Dr. William Philpott suggests a direct relationship between allergies and cerebral functioning in all humans. He provides case examples of foods causing hyper-kinesis in children, and depression, schizophrenia, and psychosis in adults. From his own psychiatric practice, Philpott gives the following statistics on the number of patients that have major symptoms upon exposure to commonly consumed foods and chemicals. Out of 250 emotionally disturbed patients:

Ninety-two percent of those classified as schizophrenic developed symptoms of maladaptive reactions to foods and chemicals; 64 percent manifested symptom formation on exposure to wheat; 51 percent manifested symptom formation on exposure to pasteurized whole cow's milk. Approximately 75 percent of the schizophrenics manifest symptom formation to tobacco; 10 percent of this group became grossly psychotic, with a paranoid reaction being the most common type of symptom formation in tobacco psychosis. Approximately 30 percent developed symptoms on exposure to petrochemical hydrocarbons. Some of the reactions in this group were so severe as to precipitate suicidal attempts or delusions (Phillpott, 1981) p.16.

This type of information creates a serious dilemma for counselors. How many clients have been misdiagnosed as having a behavioral problem when in actuality it may have been ecologic in nature caused by certain foods or chemicals? This dilemma illustrates the necessity for more information on the relationship between diet and human behavior and for counselors to include methods for ruling out possible ecologic problems as part of their assessment (Rapp, 1981; Sheinkin, Shacter, & Hutton, 1979).

The second major category in the literature on nutrition and behavior deals with the role that vitamin and mineral deficiencies play in human functioning. The pioneers in the research aspects of this field of study, now called "Orthomolecular Psychiatry," are Linus Pauling, Abraham Hoffer and Carl Pfeiffer. All three of these men have dedicated their efforts to studying the unique needs of individuals as far as daily mineral and vitamin requirements. The vast amount of literature in this area clearly indicates that no two humans are alike and that each individual's system has a delicate balance of nutrients. When this is upset there can be serious physiological and psychological responses, such as, schizophrenic depression and psychosis (Pauling, 1968; Hoffer, 1978 and Pfeiffer, 1975).

Another aspect of the effect of vitamin and mineral deficiencies that has received attention recently is the relationship between mental retardation and nutrient imbalances. In a study done in Norfolk, Virginia by a team of researchers, mentally retarded children were given added vitamins and minerals. Aside from the physical changes toward more normal functioning in four 'Down's Syndrome children, the most dramatic improvement was the elevation of I.Q. scores of a significant number of children in the experimental group. Five of the children receiving the supplements showed an average I.Q. gain of five points compared to only 1.1 points for the group receiving placebos (Harrell, Capp, Davis, Peerless, & Ravita, 1981).

The field of orthomolecular psychiatry is relatively new and there is a need for more long term research, however, the potential implications of some of these preliminary findings are widespread for the fields of counseling, psychology, and medicine. Counselors will need to broaden their diagnostic procedures and utilize experts in other disciplines such as nutrition and medicine to more effectively help their clients.

The last category that is written about a great deal in the literature is the effect of blood sugar abnormalities on psychological balance. The term most widely used is hypoglycemia or low blood sugar. This abnormality has been proposed as the possible cause for mood swings, manic-depressive behaviors, and other types of neurosis. Abrahamson (1977) clarified the issue by illustrating that it is not as simple as labeling all blood sugar abnormalities as hypoglycemia. There are systemic problems involving levels and utilization of blood sugar and secretion of insulin that are complex and can affect people in many different ways. The important questions counselors should be asking themselves are "What are some of the symptoms of blood sugar abnormalities?" and, "How can these be checked out?" The most common approach to diagnosis is a six-hour glucose tolerance test that can be administered at a hospital. Clients with blood sugar abnormalities will frequently experience inconsistent fluctuations in level of energy and temperament. In counseling, when there are unexpected periods of low energy and depressed feelings alternated with high energy and peak feelings, it is a possible clue to have the blood sugar level checked out. Alcoholism has also been linked to blood sugar abnormalities because of the desire for a form of sugar into the system to help bring the blood sugar back up and alcohol provides a quick means of doing this (Abrahamson, 1951). Whether dealing with alcoholism or depression, counselors can check out with clients possible links between their presenting symptoms and blood sugar imbalances. Asking questions such as "When does your energy drop or raise during the day?" and, "Have you noticed whether certain foods have any effect on this?", may help isolate the causes of the problems. There are many other aspects of the link between nutrition and behavior but they are too numerous to go into in this presentation.

Summary and Implications

It is clear that the Holistic Health movement has influences many disciplines, one of which is counseling. In the field of medicine, clients questions and request for alternative treatment approaches have caused a re-assessment of the traditional medical approach. As counselors, we are faced with the same situation and will be required to review our present approaches to diagnosis and treatment. Although the literature is filled with articles on holistic approaches to health and the implications for understanding human behavior, few counselor education programs are addressing these issues. The author completed a survey study using a random sampling of all medical schools, psychology programs, and counselor education programs in the country to assess the awareness of educators in the areas of nutrition as it relates to physiological and psychological health. Counselor educators rated lowest in both their awareness of the effect of nutrition on behavior and commitment toward providing educational experiences for counseling students in these areas (Vass, 1982). This is discouraging for the counseling profession in view of the fact that medical training institutions are making efforts to provide more training in these areas for medical professionals and that some psychology programs are slowly incorporating more information for students. There are some encouraging signs. The counseling journals are beginning to include articles on holistic approaches to counseling and the American Personnel and Guidance Association's state and national conferences are providing programs on these issues. The difficulty for most counselors is that they have been taught that 98 percent of all problems they encounter will be cognitively based. A majority of all counseling courses teach cognitively based. A majority of all counseling courses teach cognitive theories and do not explore

the possible biochemical and physiological imbalances that may play a role in the client's ability to adequately function. Counselors cannot be expected to be experts in nutrition, biochemistry, or medicine, but they can be aware of questions to ask in diagnosis that may help establish whether it is a concern that needs referral to other health care professionals. In order to more effectively help our clients, it is crucial that we broaden our approaches to look at the many dimensions of human functioning. This provides a tremendous challenge to explore new areas and open our minds to the many possibilities. As Dr. Jack Goldstein so aptly states, "The mind is like a parachute. It only functions when it is open." (p. 135).

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*Bibliography of 500 references in holistic health can be obtained through the Counselor Education Department, University of Wyoming, Laramie, Wyoming, 82071 (There is a fee for copy cost)